

Name:

Enrolment No:



## UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

Online End Semester Examination, May 2021

Programme Name: B. Tech ADE

Course Name : Vehicle Body Engineering

Course Code : MEAD4003

Nos. of page(s) :

Semester : VIII

Time : 03 hrs

Max. Marks: 100

Instructions:

### SECTION A

1. Each Question will carry 5 Marks

S.N		Marks	CO
1	Classify vehicles based on their construction and body style.	5	CO4
2	Define the function of following a. Nerf bar b. Power Bulge	5	CO2
3	State Galvanic corrosion in brief	5	CO1
4	Briefly explain the lateral collision test of the vehicle as per Indian standard.	5	CO5
5	Differentiate between the GRP and FRP vehicle material	5	CO3
6	Aerodynamic study is helps in determining power requirement of a vehicle at certain speed". Justify with an example.	5	CO2

### SECTION B

1. Each question will carry 10 marks

2. Instruction: Write short / brief notes/solve the Numerical

7	Enlist and discuss in detail all the design considerations for the vehicle body.	10	CO4
8	Magnesium alloys are more preferable over aluminum alloys in automobile manufacturing. Agree or disagree, Justify	10	CO1
9	Define Articulated vehicle along with its benefits and limitations.	10	CO3
10	How active safety is differ than Passive safety. Explain any two passive safety system used in automobile.	10	CO5
11	Discuss various methods to reduce aerodynamic drag in trucks and commercial vehicles?	10	CO2

### SECTION C

1. Instruction: Write long answer.

12	Explain wind tunnel testing in detail with the help of diagrams and comment on the purpose of the test.	20	CO4
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